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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,018	06/15/2006	Nobuyuki Ito	CU-4878 RJS	6101

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EXAMINER	
GREEN, TRACIE Y	
ART UNIT	PAPER NUMBER
2879	
MAIL DATE	DELIVERY MODE
07/29/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,018	ITO, NOBUYUKI	
	Examiner	Art Unit	
	Tracie Green	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,5-7,16-30,32 and 34* is/are pending in the application.

4a) Of the above claim(s) *18-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,5-7,16,17,29,30,32 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/04/2009 has been entered.

Response to Amendment

2. Receipt is acknowledged of applicant's amendment filed 06/04/2009. Claims 18-28 withdrawn to a non-elected invention, claims 1-2, 4, 8-15, 31, 33 and 35 canceled by applicant. Claims 3, 5-7, 16-17, 29-30, 32, and 34 are pending and an action on the merits is as follows.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 3, 5-6, and 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Tongeren et al. (US 2002/0079832 A1).

Regarding claim 3, Van Tongeren et al. (Van Tongeren, hereafter) teaches an organic functional element (Paragraph 40, lines 1-3) comprising at least a plurality of electrodes (3 and 9) and an organic material layer (Paragraph 40, lines 1-3), wherein at least one of the electrodes is composed of a metal having a melting point of 70°C or higher to 160°C or lower (Paragraph 47, lines 14-19) (*Examiner note: prior art teaches Sn-Bi-Pb alloy with melting point of 138 degrees and Bi-SN alloy with a melting point of 100 degrees)* and wherein the metal constituting the electrode is an alloy of Bi and at least one kind of other metals (Paragraph 47, lines 14-19)

Regarding claim 5, Van Tongeren teaches wherein a Bi component in the metal constituting the electrode is greater than that of at least one kind of other metals (Paragraph 47, lines 14-19) (*examiner note: prior art reveals SN-Bi-PB alloy wherein Bi content > Pb content)*

Regarding claim 6, Van Tongeren teaches wherein the metal constituting the electrode is an alloy composed of Bi and one, two, three, four or five kinds of metals selected from a group composed of Sn, Pb, Cd, Sb and In. (Paragraph 47, lines 14-19) (*examiner note: prior art reveals SN-Bi-PB alloy)*

Regarding claim 29, Van Tongeren teaches wherein the organic functional element is an organic EL element (Paragraph 29 and Paragraph 32)

Regarding claim 30, Van Tongeren teaches wherein the electrode is a cathode (Paragraph 40, lines 1-5 and Paragraph 42, lines 1-5)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tongeren et al. (US 2002/0079832 A1) in view of Takako (Japanese Patent 2002-237382, machine translation).

Van Tongeren teaches the organic functional element set forth above (see rejection claim 3). Van Tongeren teaches wherein the metal constituting the electrode is an alloy of Sn and Bi (Paragraph 47, lines 17-19) .Van Tongeren is silent regarding the Sn component is greater than a Bi component.

In the same field of endeavor of organic devices, Takako teaches the Sn component is greater than a Bi component (Table 1, lines 8-10) in order to provide a device with a shorten production time and improve manufacturing thus lowering the cost (Paragraph 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the organic function element of Van Tongeren wherein the Sn component is greater than a Bi component in order to provide a device with a shorten production time and improve manufacturing thus lowering the cost as taught by Takao.

7. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tongeren et al. (US 2002/0079832 A1) in view of Vleggaar et al. (US Patent 6,160,346).

Regarding claims 16-17, Van Tongeren teaches the organic functional element set forth above (see rejection claim 3). Van Tongeren is silent regarding wherein a gap made between the organic material layer and a base material having a concave part opposite to the organic material layer is filled and formed with the metal (claim 16) and wherein the gap has one or more opening parts, and the opening parts are sealed with a hardened metal (claim 17).

In the same field of endeavor of organic devices, Vleggaar et al. teaches (Figure 1 or 2) wherein a gap made between the organic material layer (4) and a base material (8) having a concave part (8, 9) opposite to the organic material layer (4) is filled and formed with the metal (5,9) and wherein the gap (Figure 2, 34) has one or more opening parts, and the opening parts are sealed with a hardened metal (29,33) in order to provide is to provide an EL device which is compact and robust under normal production and operating conditions, and which exhibits a satisfactory resistance to mechanical and varying thermal loads (Column 2, lines 15-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the organic function element of Van Tongeren wherein a gap made between the organic material layer and a base material having a concave part opposite to the organic material layer is filled and formed with the metal (claim 16) and wherein the gap has one or more opening parts, and the opening parts are sealed

with a hardened metal in order to provide is to provide an EL device which is compact and robust under normal production and operating conditions, and which exhibits a satisfactory resistance to mechanical and varying thermal loads as taught by Vleggaar et al.

8. Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tongeren et al. (US 2002/0079832 A1) in view of Hosokawa (US 2001/0011783 A1).

Regarding claims 32 and 34, Van Tongeren teaches the organic functional element set forth above (see rejections claim 3) above. Van Tongeren is silent regarding wherein the organic functional element is an organic semiconductor element (claim 32); and wherein the organic functional element is an organic TFT element (claim 34).

In the same field of endeavor of organic devices, Hosokawa teaches (Figures 7 or 8) wherein the organic functional element is an organic semiconductor element (10, 14 and Paragraph 32); and wherein the organic functional element is an organic TFT element (10, 14 and Paragraph 71) in order to provide a device with a reduction in the current density thus leading to prolonged operation (Paragraph 34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the organic function element of Van Tongeren wherein the organic functional element is an organic semiconductor element; and wherein the organic functional element is an organic TFT element in order to provide a device with a

reduction in the current density thus leading to prolonged operation as taught by Hosokawa.

Response to Arguments

9. Applicant's arguments with respect to claim 3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2002/0051893 and US 4,998,665 teach low melting point metals in organic device, including the content of Bi.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracie Green whose telephone number is (571)270-3104. The examiner can normally be reached on Mon-Thurs 7:00am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Tracie Green/
Examiner, Art Unit 2879

/Sikha Roy/
Primary Examiner, Art Unit 2879